LIVESTOCK ID

DATAMARS

BLUESTICK

USER MANUAL

Version 1.1

DATAMARS

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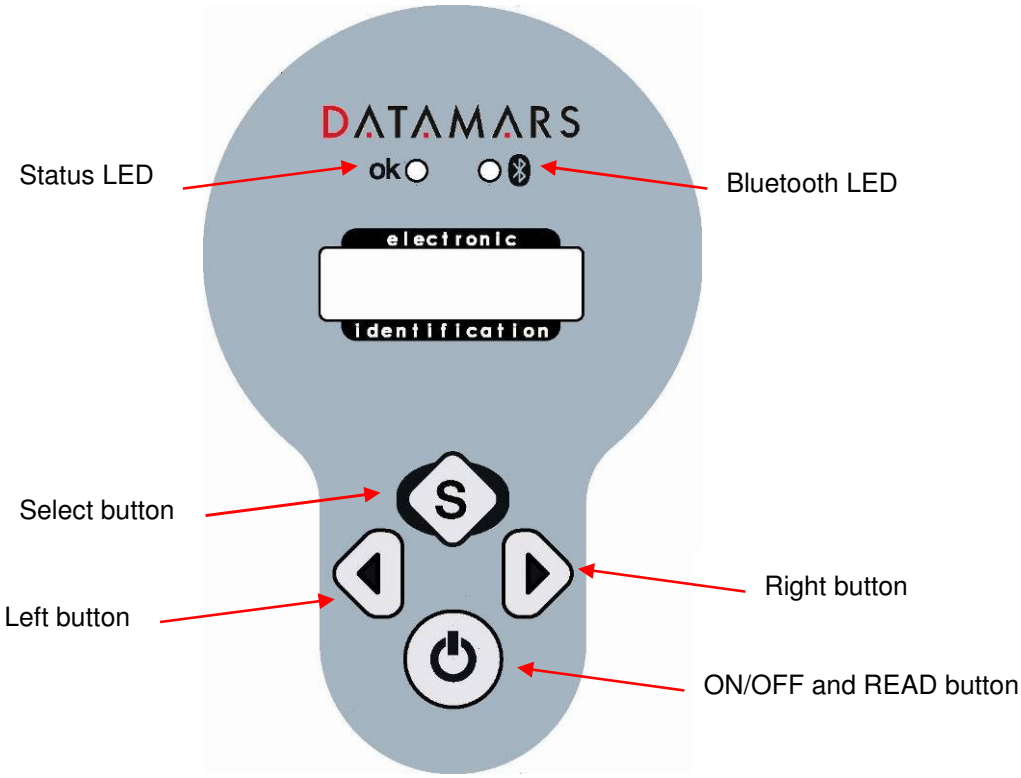
1 Description

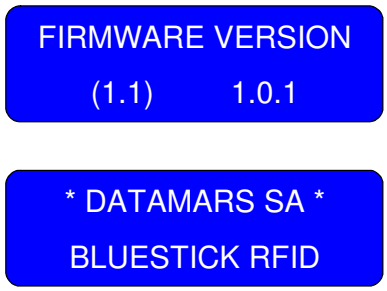

Status LED
Bluetooth LED
DATAMARS
ok
electronic
identification
Select button
Right button
Left button
ON/OFF and READ button

2 Operation

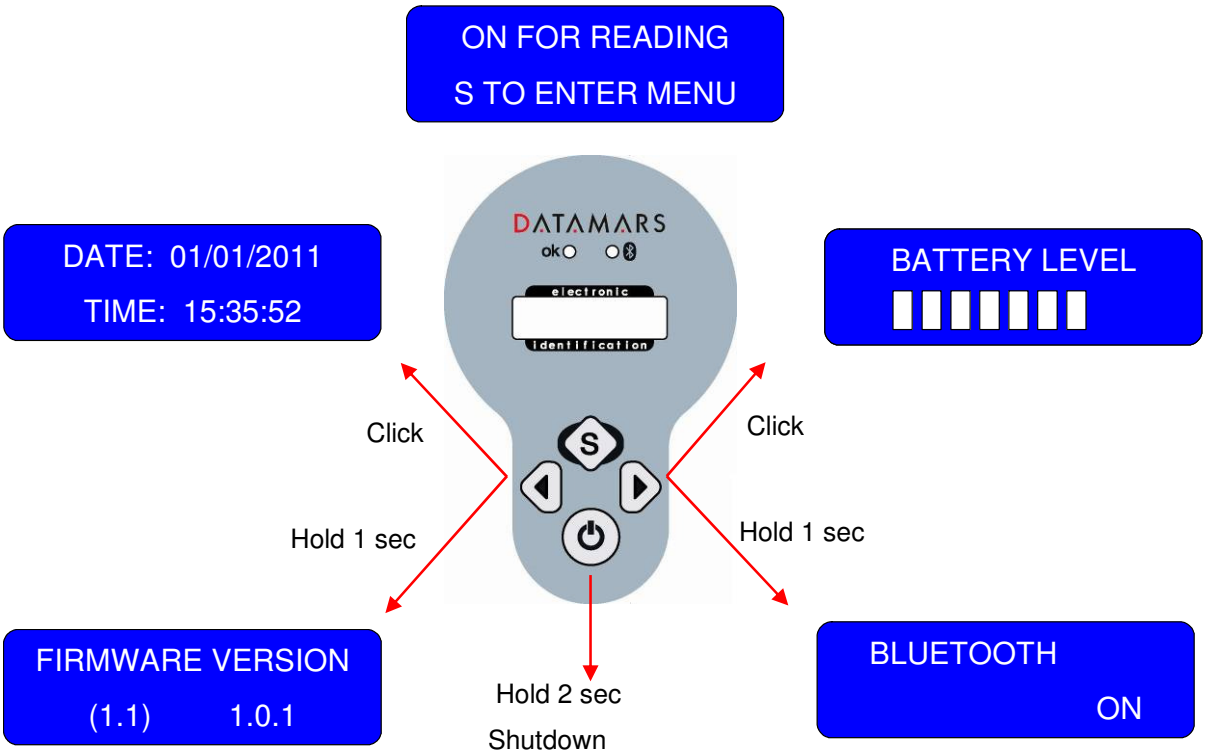
Although the BLUESTICK has been designed to plug and play, we recommend you read this manual carefully in order to take advantage of all its useful features and functions.

2.1 Switch on/off the BLUESTICK

Press the button, which is located on the lower center of the panel.
The display shows the following start-up figures:



You can see on the right the firmware version and on the left the bootloader version.
After a few seconds the main screen shot appears:



1. Check the battery level before using the device.
2. Bluetooth indicator is blinking when the Bluetooth is on and lit when connected.

3. Date format can be selected between EU/US/TIMESTAMP.
4. Clock time is in 24 hour mode.
5. Press to enter the Menu features.
6. Press to start a single read.

After a period of non-use the device will go on an automatic “pause mode”, which means the backlight of the display turns down and the keyboard is disabled. In order to “unlock” your reader, please press the button.

In order to manually switch off the reader, hold the button for 2 seconds. The reader has also an automatic shutdown function activated after a period of non-use.

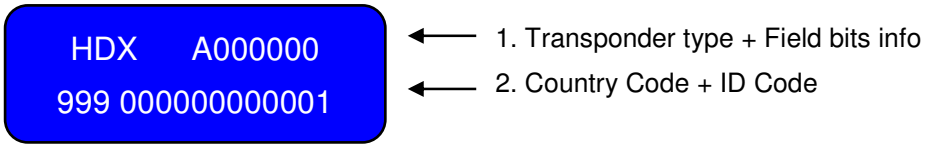
2.2 Read a transponder

Place the BLUESTICK near the animal to be read, then press the button in order to activate the reading mode.

During the reading mode, move the reader along the animal to scan the transponder ID.

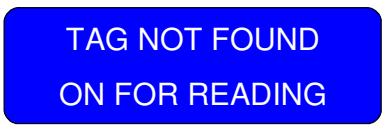
To stop the reading mode press the button again.

The following figure shows the result of a successful reading session:



1. There are two types of transponder: FDX-B and HDX, which are the ISO standard 11784/5. When the reader displays the word “H NOANIMAL” as Field bits, it means that this transponder is not coded for animals, but for the Industry.
2. The Alpha country code is according to ISO 3166; ISO 11784/5.The Identity Code number is according to ISO 11784/5.

The following figure shows the result of an unsuccessful reading session:



After a while the reading mode times out. The reader stops and shows the message “TAG NOT FOUND”.

3 Managing the menu

3.1 Find your way in the menu

Switch on the reader by pressing the button (please refer to chapter 2.1).

Press the on the keypad to enter menu
The display shows the following figure:

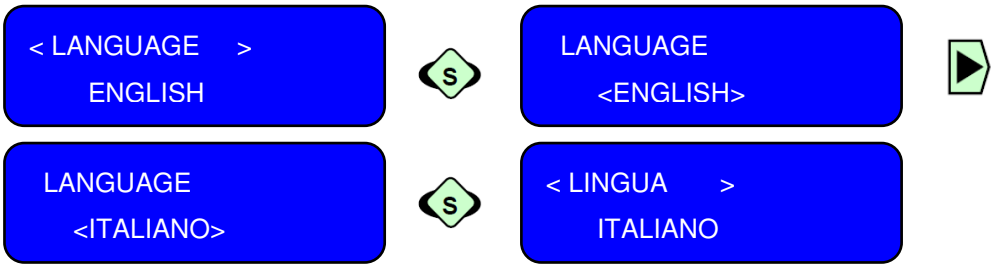
You can scroll through the menu by pressing or which are the navigation keys.

In order to enter a sub menu, press the button while it is shown

Generally the button is used to select and confirm the changes made through the parameters of the menu. While the menu is selected, the button is used to cancel the changes and go back to a previous menu level to exit the main menu.

3.2 Language

This menu allows you to select the language on your device. With this example is possible change the language in the Italian version.



3.3 Configuration

The Configuration menu allows you to manage all the RFID-related options.
There are various features in the Configuration menu.

3.3.1 Reading Timeout

The Reading timeout feature defines the maximum period while the reader stays in reading mode.

3.3.2 Continuos Read

The Continuous Read feature allows the user to read several animals without starting a new reading session each time an animal is read.

3.3.3 EIC/CIC Format

The EIC/CIC format menu defines how to send over Bluetooth and RS232, the transponder information.

3.3.3.1 EIC format

Allows five different EIC download formats to be defined:

• **ISO Long (default):**

- Animal: "A000000096400000000123456" (23 char)
- Industrial = "R00060000000000123456" (21 char)

• **ISO Short:**

- Animal: "964 000000123456" (16 char)
- Industrial: "0006 0000000000123456" (21 char)

• **ISO Tiris (Texas Instruments):**

- Animal: "A 00000 0 964 000000123456" (26 char)
- Industrial: "R 0006 0000000000123456" (23 char)

• **F-210:**

- Animal: "A 00000 0 0999 000000123456"(27 char)
- Industrial: "R 0006 0000000000123456" (23 char)

• **BDN-Ita:**

- Animal: "1000000096400000000123456" (23 char)
- Industrial: "R00060000000000123456" (21 char)

• **ISO Short South America (SA):**

- Animal: "964000000123456" (15 char)
- Industrial: "0006 0000000000123456" (21 char)

• **ISO HEX:**

- Animal: "8000F1000001E240" (16 char)
- Industrial: "006000000001E240" (16 char)

3.3.4 Send EIC via Bluetooth

When the BT send EIC feature is on, the TAG ID is sent through Bluetooth (Bluetooth has to be enabled and connected).

3.3.5 Reading Sound

The Reading sound feature enables or disables the acoustic signal when a tag is found/not found. When the key feature is OFF, the sound is disabled. When it is ON, the sound is enabled.

3.3.6 Reading Vibro

The Reading vibro feature enables or disables the vibro signal when a tag is found/not found. When this feature is OFF, the vibro is disabled. When it is ON, the vibro is enabled.

3.3.7 Autotuning

The Autotuning RFID test shows the values of tuning position and power.

3.4 Setup

The Setup menu allows you to manage all the configuration options of the reader

You can enter the set-up menu by pressing

. Than scroll through the 'set-up' features by pressing the narrow buttons.

3.4.1 Timeout backlight

The Timeout backlight feature allows you to decide how many seconds the display has to stay on.

3.4.2 Auto Shutdown

The Auto Shutdown feature defines the maximum period that the reader stays on while no buttons are pressed. After this period the reader automatically switches off.

3.4.3 Display Contrast

The Display contrast feature defines the level of the contrast of the display.

3.4.4 Display brightness

The Display brightness feature defines the level of the brightness of the display.

3.4.5 Keyboard sound

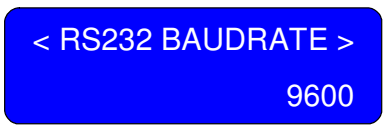
The Keyboard sound feature enables or disables the acoustic signal when a button is pressed. When the key feature is OFF, the sound is disabled. When it is ON, the sound is enabled.

3.4.6 Send version

As a confirm that the Bluetooth is enabled and connected, when the Send version feature is on, the version of the firmware will be read in the window of the communication program (i.e.: HyperTerminal).

3.4.7 RS232 Baudrate

This feature allows you to set the correct Baudrate, according to the Baudrate on your PC for the communication program (eg: HyperTerminal).



3.5 Date & Time

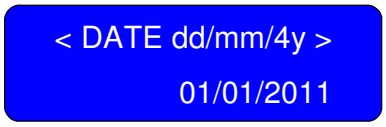
The Date & Time menu allows you to manage all the options of the clock of the reader.

3.5.1 Format

This menu allows you to adjust the date and time including the date format (EU format if you prefer to have the day before the month, US format if you prefer to have the month before the day, and the TIMESTAMP format).

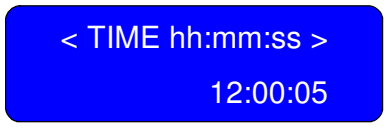
3.5.2 Set date

To set the date, press S button and insert the current date.



3.5.3 Set time

To set the clock, press S button and insert the current time.

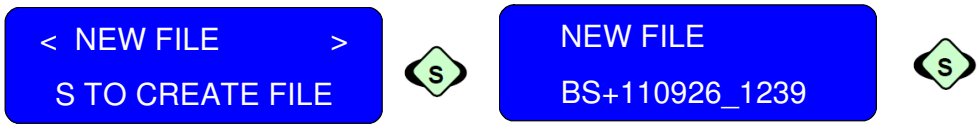


3.6 Data Files menu

This menu allows you to manage all the data files in the device.

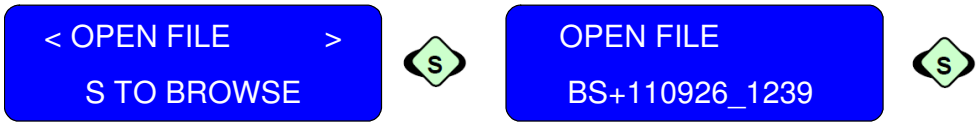
3.6.1 New File

To create a new file, press the S button. The new file has the format BS+yymmdd_hh:mm



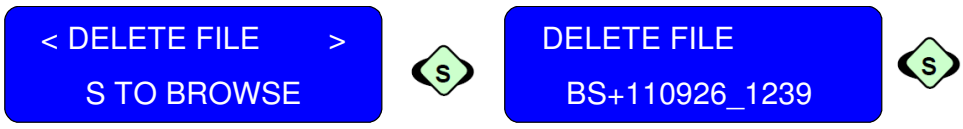
3.6.2 Open File

To open an existing file, press the S button to browse the file list.



3.6.3 Delete File

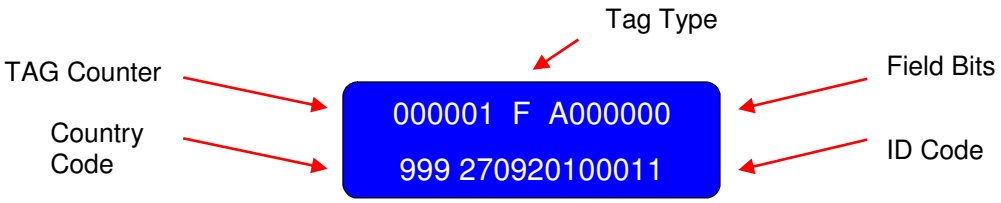
To delete an existing file, press the S button to browse the file list.



3.6.4 Store in File

The “Store in File” function allows the device to write the EIC code of the tags read in a file.

When this feature is active, in addition, the reader shows a counter corresponding to the number of TAGs read and stored in the current file. The following picture shows this behavior.



Moreover, when this feature is active, the reader adds to the file just the TAG’s codes which are not already included in the file. In other word it does not add to the file multiple EIC of the same TAG. When a new TAG has been read, the device signals with 2 beeps (or vibros), while a already in file TAG has been found, the device signals it with 1 beep (or vibro).

3.7 Utility

3.7.1 Cyclic Delay

This feature allows changing the time duration of one reading cycle. The Cyclic Delay has to take longer than the Reading Timeout (1 up to 100 minutes).

3.7.2 Cyclic Read

This feature starts the reading cyclic test, that is based on:

- Reading time
- Pause

3.7.3 CNT Reading

This feature starts a reading test and indicates the percentage of the readings done.

3.7.4 Save RF

This feature allows saving information about RF analogic signal.

3.7.5 Save HDX

This feature allows saving HDX info about analogic signal.

3.7.6 Save FDX-B

This feature allows saving FDX-B info about analogic signal.

3.7.7 Boot Update

Special command used on by Datamars engineers.

3.8 Search group

In order to enter this menu, press the S button.

Remember that the search file must be previously loaded into the reader by using the RumiSoft program. Please refer to the Rumisoft user manual to know how to load the search file into the reader.

3.8.1 Select a search file

In order to select a search file press the S button.

In order to browse the search files press the narrow button.

Once the search file has been found press the S button to select it.

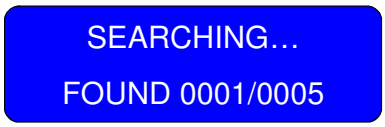
3.8.2 Searching a group

In order to start the searching session, press the S button.

At this point you can proceed with the searching session.

When the reader find a TAG, which is in the searching list and is not already read, the device signals this TAG with two beeps (or vibro). If the TAG read is not in the search list or has been already found, the device signals this TAG with one beep (or vibro).

When the first TAG is found the reader shows a counter of the TAGs found over the total TAGs to be found.



When the reader has found all the TAG listed in the search file selected, the reader signals the end of the searching session with three beeps (or vibro).

3.9 Shutdown

In order to switch off your reader, hold the button for 2 seconds

4 Connect your BLUESTICK to a PC

This section describes how to connect the BLUESTICK to a personal computer (PC). The BLUESTICK can be connected to a PC in 3 ways: the first is a wired USB connection, the second a wireless Bluetooth connection, the third is a wired RS232 connection.

4.1 How to connect the BLUESTICK reader to a PC through the USB cable

An USB cable is provided so you can connect your reader to a computer.
Insert the mini USB plug of the USB cable in the connector of the BLUESTICK reader; insert the other cable's plug into the computer's USB port.
The BLUESTICK reader will automatically switch on in Mass Storage Device mode, the connection between the reader and the PC is now established, and a pop-up window will appear on your computer's monitor, showing the contents of the BLUESTICK' embedded Memory Card.

4.2 How to connect the BLUESTICK reader to a PC through the RS232 cable

The RS-232 interface version does not require any software installation. Plug in the RS-232 cable between your reader and the PC. Then refer to chapter 4.4 and follow the instructions to open a new HyperTerminal session.

4.3 Bluetooth installation guide for Windows XP OS

Any reader has a Bluetooth module, in order to turn on the Bluetooth press and hold the button for 1 second.

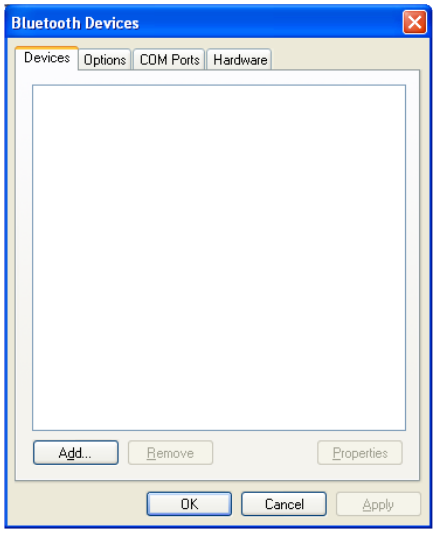
On the other hand, verify that your PC is equipped with Bluetooth hardware too.

4.3.1 Configure BLUESTICK for the Bluetooth connection

During the Bluetooth discovery process done by the PC, it is important that the BLUESTICK reader is ON and the Bluetooth LED is blinking.

4.3.2 Search for and recognize the BLUESTICK by a host PC

From the control panel choose ***Bluetooth Device***. The following dialog window appears.



Select the ***Options*** tab, and then check the feature ***Turn discovery on***.

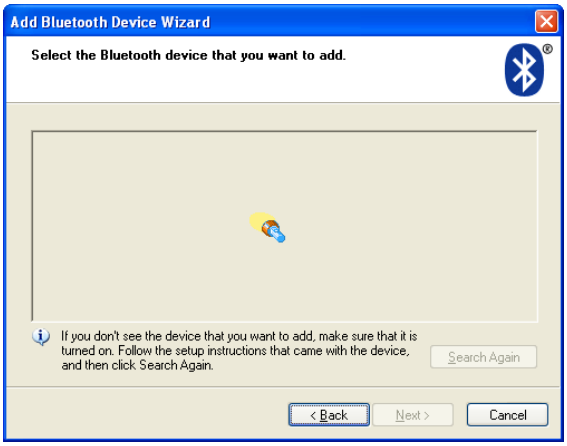
Bluetooth Devices
Devices
Options
COM Ports
Hardware
Discovery
To allow Bluetooth devices to find this computer, select the following check box.
Turn discovery on
To protect your privacy, turn on discovery only when you want a Bluetooth device to find this computer.
Connections
Use these settings to control whether a Bluetooth device can connect to this computer.
Allow Bluetooth devices to connect to this computer
Alert me when a new Bluetooth device wants to connect
Show the Bluetooth icon in the notification area
Learn more about Bluetooth settings.
Restore Defaults
OK
Cancel
Apply

Select the ***Devices*** tab.

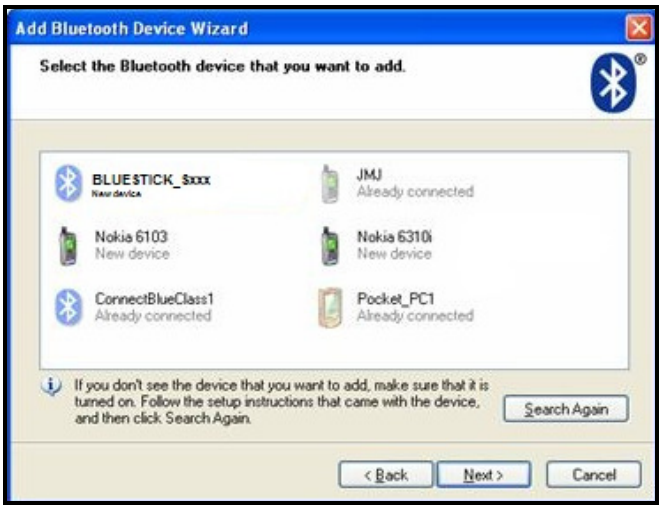
Check that the BLUESTICK reader is switched on.

Add Bluetooth Device Wizard
Welcome to the Add Bluetooth Device Wizard
Before proceeding, refer to the "Bluetooth" section of the device documentation. Then set up your device so that your computer can find it:
- Turn it on
- Make it discoverable (visible)
- Give it a name (optional)
- Press the button on the bottom of the device (keyboards and mice only)
My device is set up and ready to be found.
Add only Bluetooth devices that you trust.
< Back
Next >
Cancel

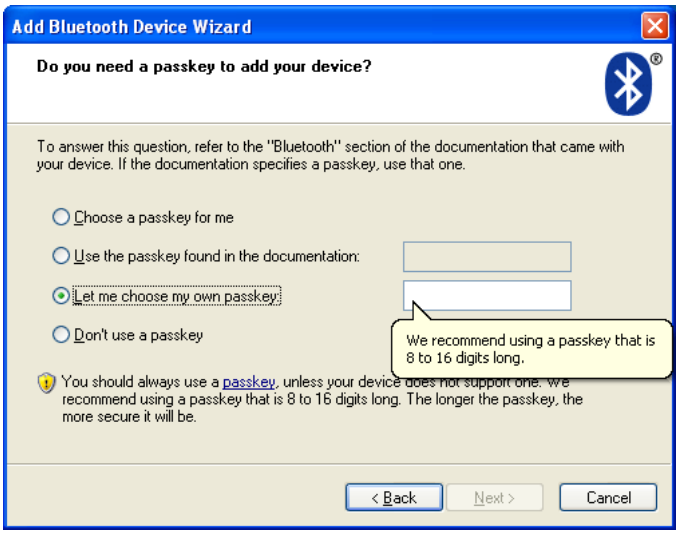
The welcome window for the configuration guide of the new Bluetooth peripheral appears. Press ***Next***; in order to start the search and recognize the procedure.


Add Bluetooth Device Wizard
Select the Bluetooth device that you want to add.
If you don't see the device that you want to add, make sure that it is turned on. Follow the setup instructions that came with the device, and then click Search Again.
Search Again
< Back
Next >
Cancel

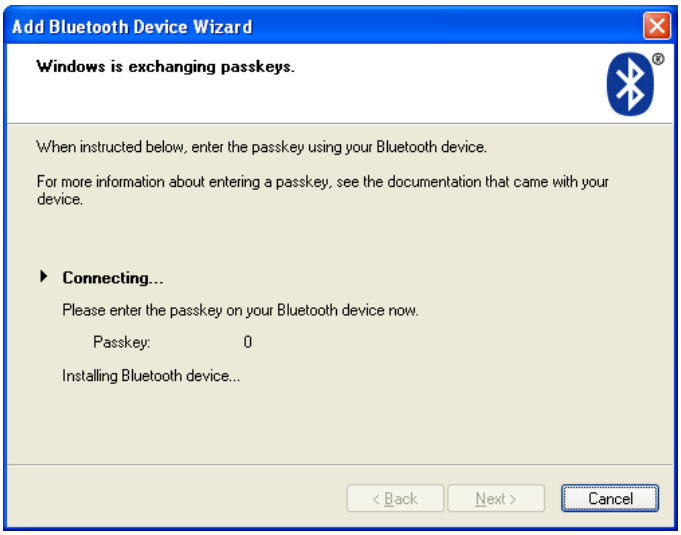
The result of the search and recognition procedure shows all Bluetooth devices which are nearby.

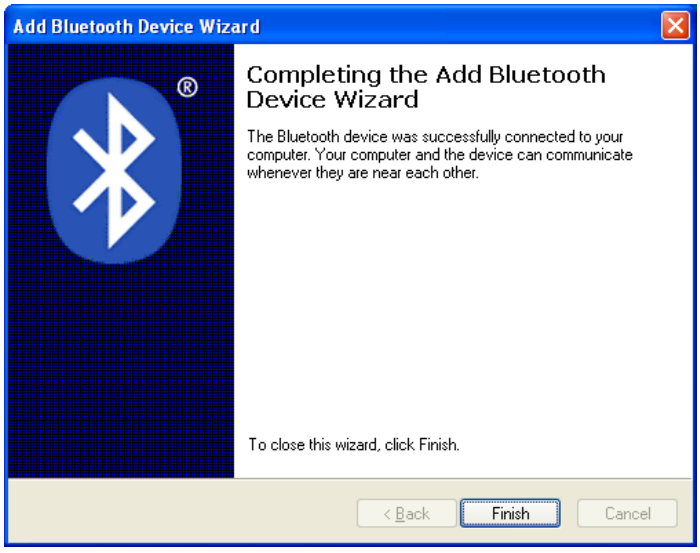

Add Bluetooth Device Wizard
Select the Bluetooth device that you want to add.
BLUESTICK_Sxxx
New device
JMJ
Already connected
Nokia 6103
New device
Nokia 6310i
New device
ConnectBlueClass1
Already connected
Pocket_PC1
Already connected
If you don't see the device that you want to add, make sure that it is turned on. Follow the setup instructions that came with the device, and then click Search Again.
Search Again
< Back
Next >
Cancel

At this point select from the Bluetooth device list the one named “BLUESTICK_Sxxx” and press ***Next***.


Add Bluetooth Device Wizard
Do you need a passkey to add your device?
To answer this question, refer to the "Bluetooth" section of the documentation that came with your device. If the documentation specifies a passkey, use that one.
Choose a passkey for me
Use the passkey found in the documentation:
Let me choose my own passkey:
Don't use a passkey
We recommend using a passkey that is 8 to 16 digits long.
You should always use a passkey, unless your device does not support one. We recommend using a passkey that is 8 to 16 digits long. The longer the passkey, the more secure it will be.
< Back
Next >
Cancel

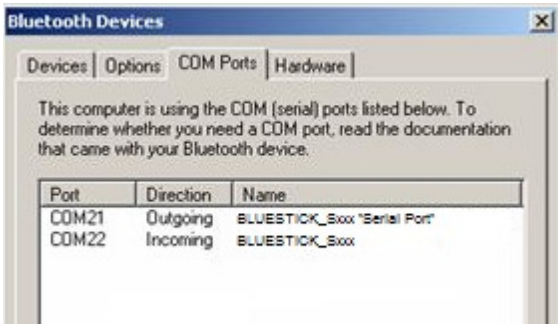
Select the option ***Let me choose my own passkey*** and input the number zero (just one 0 character). Press ***Next*** to continue.


Add Bluetooth Device Wizard
Windows is exchanging passkeys.
When instructed below, enter the passkey using your Bluetooth device.
For more information about entering a passkey, see the documentation that came with your device.
Connecting...
Please enter the passkey on your Bluetooth device now.
Passkey: 0
Installing Bluetooth device...
< Back
Next >
Cancel


Add Bluetooth Device Wizard
Completing the Add Bluetooth Device Wizard
The Bluetooth device was successfully connected to your computer. Your computer and the device can communicate whenever they are near each other.
To close this wizard, click Finish.
< Back
Finish
Cancel

Finally the BLUESTICK reader has been recognized and installed in your PC as a Bluetooth device. Press the ***Finish*** button.

At this point select the ***COM Ports*** tab and verify that two COM ports have been created: One called Outgoing and the other called Incoming.



The Outgoing COMxx allows a connection between the reader and the pc, but when one of the 2 devices is switched off or you lose the connection because of bluetooth out of range, the Outgoing Port get closed and you need to repeat the procedure next time you need the connection.

The Incoming COMxx allows the connection between the reader and the pc and it remains active, so that the connection starts automatically in case you switch off the reader or you loose the connection because of bluetooth out of range.

The COM numbering depends on your host PC, this number may be different from the one shown in the example.

4.4 Real-time communication

- Once the BLUESTICK has been found by your PC through Bluetooth connection, a new port COM will be added to your PC. Please verify that your BLUESTICK Bluetooth LED is blinking, if is not the case, hold the button during one second. Select this port COM from any program which is supposed to communicate to the reader.
- Once the BLUESTICK has been plugged through the RS-232 cable to your PC open a new HyperTerminal session.

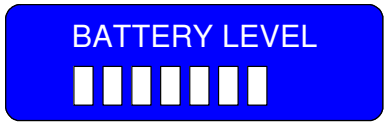
In order to test the port COM, a HyperTerminal session (in Windows) can be opened.

To open a new HyperTerminal session:

1. Select the Start menu.
2. Choose Programs.
3. Choose Accessories.
4. Choose Communication.
5. Launch HyperTerminal.
6. A dialog box appears.
7. Input a session name, (i.e. BLUESTICK).
8. Press the ok button.
9. Select the COM port assigned to the BLUESTICK.
10. Input the corresponding BAUD rate.
11. Select the following options: Baud rate= 115200, data bits = 8, parity = none, stop bits = 1, flow control = none.
12. Press the ok button.
13. Now the HyperTerminal session is ready to start, just click on the calling icon or select Call under the Call menu.
14. At this point you are ready to receive the codes read directly on your PC.
15. Press the button and read a transponder.
16. The ID code will be shown on the HyperTerminal window.

5 Battery management

The BLUESTICK is equipped with high quality Li-Ion cells battery.



5.1 Battery level indicator

The battery level is shown by the bars as shown in the previous image.

5.2 How to recharge the battery

In order to recharge the battery simply plug the USB cable into the corresponding connector on the bottom of the reader and connect it to a PC or a wall mount adapter with USB plug. With the adapter for DC car/truck power source is possible charge the reader even on the road.
Once the cable has been plugged in, the BLUESTICK charges the battery in a few hours.

6 Take care of your reader

Ensure that the reader does not get damaged. Do not drop it onto a hard surface or subject it to very wet conditions.

If the outer casing of the reader becomes soiled it can be cleaned with a damp cloth. First ensure that it is not connected to the charger.

If for any reason the reader is not working please do not attempt to repair it, but return it for repair to your local dealer.

The BLUESTICK reader is equipped with Li-Ion type battery. This battery lasts longer and does not contain Cadmium or lead, which makes it much safer for the environment. If the reader has to be destroyed, please return it to a battery specialist for battery recycling.

The display of the reader BLUESTICK may change color if exposed to temperatures higher than 50°C. It will return to its original color as soon as the temperature gets below 50°C.

At very low temperatures the display may lose its contrast but at normal temperatures it will return to its normal contrast.

Caution: if the reader has to be transported by air, the USB connector cap has to be open during the flight.

7 Specifications

1. Storage temperature: -20 to +65 °C, 85% RH, non-condensing
2. Normal operating temperature: -5 to +55 °C, 85% RH non condensing
3. Charging temperature: +5°C to +40°C, 85% RH, non-condensing
4. Standards: ISO11784/5, ISO11784-AMD1 and ISO24631-2
5. External power supply : USB cable
6. Dimensions: 500 x 80 mm TAG compatibility: FDX-B, HDX
7. Transmission frequency: 134.2 kHz
8. Battery life: >500 cycles
9. Weight: 620 g
10. Interfaces to host PC: USB and Bluetooth, RS232

8 Software Rumisoft

8.1 Introduction

Rumisoft is a software tool that can be used to manage controls and search files for your device. It also allows the user to configure the reader in a user friendly graphic environment.

8.2 How to install Rumisoft

Rumisoft application can be found on the SD Memory card embedded in the reader.
To install it, connect the Bluestick to the PC (see chapter 4.1) and when the pop-up window appears, select “SD Memory Card”. Click on the Doc folder and then select “setup.exe”.
After that operation, follow the instructions on the screen to complete the installation of the Rumisoft.
For more information please refer to the “Rumisoft manual”, the manual is also in the same folder into the SD Memory Card.

8.3 Configuration of Bluestick

Configuration of Bluestick can be changed through the SW RumiSoft. For details refer to the Rumisoft User Manual.

9 Do you have a problem identifying an animal?

9.1 The reading distance is too short

The maximum reading distance is obtained with the transponder (tag) perpendicular to the antenna and aimed at the centre of the antenna coil. If the tag is implanted into an animal its orientation may not be optimal and therefore the reading distance may be reduced.

You might be close to a source of electromagnetic disturbances like video or TV. Move a few meters away and try again.

Do not use the reader on a steel table. The metal will reduce the performance of the antenna.

9.2 The reader does not read the transponder

Change the angle of the reader and try again.

Some types of transponders from other manufacturers are disturbed if placed in the centre of the reader-antenna. It is possible that some tags will not function if placed in parallel and at the centre of the antenna. Change the direction of the tag or of the antenna.

9.3 The reader does not work

Charge the reader for at least 30 minutes and try again (recommended time for full battery recharge = 2 hours).

Check the ambient temperature: It has to be between -5ºC and +55º C.

If you're still having problems, please contact your dealer.

The BLUESTICK reader is a product developed and produced by DATAMARS, Switzerland.

Should you have any suggestions or require information regarding this or other DATAMARS products, please contact your dealer.

10 Advanced user instructions

10.1 Console commands description

This section is meant to describe the console commands implemented in the BLUESTICK in order to remote control the features and the functions of the reader.

”answer string” [CR][LF]

10.1.1 Get firmware version command

- Command syntax: [CSV]
- Command answer: “FW Vx.x.x (Vx.x)”
  [CSVOK] <CR><LF>

Description: this command returns the firmware version.

10.1.2 Get all the information recorded

- Command syntax: [CSW]
- Command answer: [(register1)]<CR><LF>
  [(register2)]<CR><LF>
  …
  [(register)]<CR><LF>
  [CSWOK]<CR><LF>

Description: this command returns all the information of the readings recorded, the register is based on the EIC format.

11 Certifications

European directives

Datamars, Via ai Prati, CH-6930 Bedano declares, under its own responsibility, that the product BLUESTICK is in accordance with the following standard (pending):

ETSI EN 300 330-1 / ETSI EN 300 330-2	Electromagnetic compatibility and Radio spectrum matters (ERM) - Short Range Devices.
ETSI EN 301 489-1 / ETSI EN 301 489-3	Electromagnetic compatibility (EMC) standard for radio equipment and services.
IEC/EN 61000-4-2 / IEC/EN 61000-4-3/ IEC/EN 61000-4-4/ IEC/EN 61000-4-6	Electrostatic discharge, electromagnetic field, electrical fast transient/burst, radio-frequency fields' immunity.

BLUESTICK satisfies the essential requirements of directives 99/5/EC

12 End of life

12.1 Disassembly Instructions for BLUESTICK reader

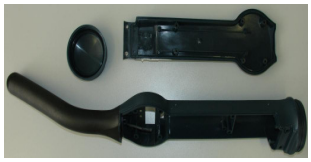
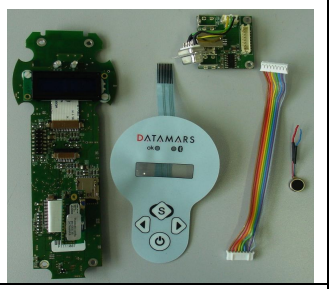
Product Name / Model	Description
BLUESTICK / Any models	Universal portable reader

Only authorized recyclers are permitted to use these disassembly instructions. Any attempted disassembly by a user or unauthorized party will void the product warranty and may irreparably damage the product.

12.2 Tools Required

Tool Description	Tool Size (if applicable)
Nipper	Medium
Philips screwdriver (0)	Small
Cutter pliers	Medium
Hot Air Gun	Big

12.3 Product Disassembly Process

1	• All external plastics have to be removed from the reader. (Use Philips screwdriver to remove all screw) • The Keypad has to be removed from the top cover casing. (Use the Hot Air Gun with the cutter pliers in order to easily remove the keypad) • The battery, the vibro, the USB and RS232 cable and the battery have to be removed from the bottom cover casing. • PCBA are to be removed from casing.	
2	Dispose plastic parts of the reader in accordance with local recycling laws.	
3	Dispose electronics parts of the reader in accordance with local recycling laws.	
4	• Remove cables from batteries. (Use the nipper to do this operation) Dispose batteries of the reader in accordance with local recycling laws.	
5	Dispose crews and the aluminum disc of the reader in accordance with local recycling laws.